

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* KLAUS REDECKER, WEUTER WALDEMAR  
and ULRICH BLEY

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Appeal 2006-2456  
Application 08/894,351  
Technology Center 1700

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Decided: September 20, 2006

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Before WALTZ, TIMM, and JEFFREY T. SMITH, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the Primary Examiner's Final Rejection of claims 1 through 4, 9, 10, 27 and 31.<sup>1</sup> Claims 5, 8, 11-26 and

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<sup>1</sup> We refer to and cite from the "Revised Brief" dated Dec. 29, 2005. Appellants submitted an amendment with this Revised Brief (Br. 2). The Examiner has not explicitly stated that this amendment was entered. However, the Examiner states that Appellants' statement of the status of the amendments after Final Rejection is "correct" (Answer 2). In the remarks

Appeal 2006-2456  
Application 08/894,351

28-30 are the only other claims pending in this application and stand withdrawn from further consideration as drawn to a non-elected invention (Br. 2). We have jurisdiction pursuant to 35 U.S.C. § 134.

According to Appellants, the invention is directed to a gas-producing composition for gas generators comprising specific nitrogen-containing compounds as a fuel and a combination of zinc peroxide, potassium perchlorate, and at least one nitrate as the oxidant (Br. 2-3). Independent claim 1 is illustrative of the invention and is reproduced below:

1. Gas-producing composition for gas generators, wherein said gas-producing composition comprises,
  - a) as fuel, at least one nitrogen-containing compound selected from the group consisting of tetrazole, triazole, triazine, cyanic acid, urea, and their derivatives or their salts;
  - b) as oxidant, a combination of zinc peroxide, potassium perchlorate and at least one nitrate.

The Examiner has relied upon the following references as evidence of obviousness:

|        |              |               |
|--------|--------------|---------------|
| Wardle | US 5,472,534 | Dec. 05, 1995 |
| Blau   | US 5,472,647 | Dec. 05, 1995 |

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accompanying the Amendment, Appellants state that amendments were made to claims 20, 27, and 31 to correct “clerical errors and matters of form.” (Br. 2). Because our review of the issues on appeal focus on claim 1, the claim we select as representative, the status of entry of the amendment does not affect our decision herein. However, in the event of further or continuing prosecution, the Examiner should clarify the status entry of the Amendment.

Appeal 2006-2456  
Application 08/894,351

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|-----------------------|-----------------|---------------|
| Lund                  | US 5,500,059    | Mar. 19, 1996 |
| Highsmith             | US 5,516,377    | May 14, 1996  |
| Redecker <sup>2</sup> | EP 0 519 485 A1 | Dec. 23, 1992 |
| Yoshida               | EP 0 607 446 A1 | Jul. 27, 1994 |

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Blau in view of Lund, Wardle, Highsmith, Yoshida, and Redecker (Answer 3).<sup>3</sup> Based on the totality of the record, we AFFIRM the rejection on appeal essentially for the reasons stated in the Answer, as well as those reasons set forth below.

#### OPINION

The Examiner finds that Blau teaches the “basic invention,” i.e., a gas generating composition comprising a tetrazole fuel and various oxidizers, including metal peroxides, perchlorates, nitrates, and mixtures thereof (Answer 3). The Examiner concludes that substitution of specific “notoriously well known ingredients” would have been obvious to one of ordinary skill in the art (Answer 3-4). The Examiner additionally cites the secondary references with the findings that Lund exemplifies a fuel with a plurality of oxidizers, Wardle teaches zinc peroxide as an oxidizer, Highsmith generally suggests mixtures of oxidizers with fuels and exemplifies a plurality of oxidizers, Yoshida shows three oxidizers used with

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<sup>2</sup> We rely upon and cite from a full English translation of this document, previously made of record.

<sup>3</sup> The rejection of the claims on appeal under the judicially created doctrine of obviousness-type double patenting over claims 1-15, 18, and 19 of U.S. Patent 6,453,816 has been withdrawn by the Examiner (Answer 2).

Appeal 2006-2456  
Application 08/894,351

a fuel in a specific gas generating composition, and Redecker discloses examples with a 5-AT fuel and a plurality of oxidizers, including zinc peroxide and added “conventional oxidizers” (Answer 4). From these additional findings, the Examiner concludes that, where the ingredients were well known and combined for their known properties, the combination would have been obvious, absent a showing of unexpected results (*id.*). We agree.

Appellants argue that none of the cited references suggest using, as an oxidant, the combination as claimed (Br. 4).<sup>4</sup> Appellants also argue that nowhere in Blau is there any suggestion to use, as an oxidant, the combination as claimed (*id.*). Appellants argue that Blau does not recognize any advantages to using any particular type of oxidizers, much less the particular oxidants claimed (*id.*).

Appellants’ arguments are not well taken. We determine that Blau alone would have provided adequate suggestion to one of ordinary skill in the gas generating composition art to use mixtures of oxidants with a tetrazole fuel, including oxidizers selected from the group of metal peroxides, inorganic perchlorates and nitrates (Blau, abstract; col. 2, ll. 29-32; col. 5, l. 66-col. 6, l. 21; and claim 26 in col. 10). We find that Blau specifically exemplifies oxidants such as alkaline earth peroxides, potassium

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<sup>4</sup> Appellants do not provide arguments against any specific claim (see the Brief in its entirety). Therefore, we select claim 1 from the group of rejected claims and limit our consideration in this appeal to this claim. See 37 C.F.R. § 41.37(c)(1)(vii).

Appeal 2006-2456  
Application 08/894,351

perchlorate, and various nitrates, as well as suggesting the use of mixtures or combinations of the disclosed oxidants with “other conventional oxidizers” (Blau, col. 6, ll. 4-21). Although Appellants are correct in that Blau does not teach any advantage to using the specific oxidants claimed by Appellants, we note that the burden rests with Appellants to establish unexpected results for the specific combination of oxidants selected from the classes of oxidants taught by Blau. *See In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980); *In re Crockett*, 279 F.2d 274, 276, 126 USPQ 186, 188 (CCPA 1960) (Prima facie obvious to combine two or more compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose).

Appellants argue that Lund discloses an oxidant that is generally a metal oxide or metal hydroxide, with all examples containing cupric oxide (Br. 5). This argument is not well taken since a reference is not limited to its examples but is available for all that it discloses and suggests to one of ordinary skill in the art. *See In re Widmer*, 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965). We note that Lund discloses many oxidants, including mixtures, and teaches that these oxidants can be combined with “other conventional oxidizers” (col. 5, ll. 1-17).

Appellants argue that Wardle teaches that the oxidizer should be free of cations of alkali metals such as potassium, and thus this reference “teaches away” from the claimed combination of oxidants (Br. 5-6). This argument is not persuasive. We find that Wardle only teaches that it is

*preferred* that the oxidant should be free of potassium (col. 3, ll. 12-13). We further find that Wardle specifically teaches the use of potassium nitrate as an oxidant (col. 3, ll. 22-27). Thus we determine that this reference does not “teach away” from the claimed invention. *See In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979) (A reference must be considered for all that it fairly suggests, including unpreferred embodiments).

Appellants argue that Highsmith, Yoshida, and Redecker do not suggest the specific combination of oxidants as claimed (Br. 6). This argument is not persuasive since Appellants consider each reference alone and not combined as proposed by the Examiner. *See In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (Obviousness is tested by what the combined teachings of the references would have suggested to one of ordinary skill in the art). Appellants admit that these various references disclose numerous oxidants, alone or in mixtures (Br. 6). Appellants have not rebutted the teachings of Blau discussed above, namely, that various “conventional oxidizers” can be used in combination with the disclosed oxidants, with Lund, Wardle, Highsmith, Yoshida, and Redecker all teaching various conventional oxidants and their use in mixtures of oxidizers with nitrogen-containing fuels in gas-generating compositions.

For the foregoing reasons and those stated in the Answer, we determine that the Examiner has established a *prima facie* case of obviousness in view of the reference evidence. Appellants argue that their Specification establishes “unexpectedly advantageous results” achieved by

claimed gas-producing composition (Br. 7-8, referring to Specification 15, Examples 1 and 2). Therefore, we must consider the evidence for and against obviousness, and determine whether a preponderance of evidence weighs for or against patentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

We do not find the comparative Examples evidence persuasive of unobviousness. As correctly found by the Examiner (Answer 5), Appellants have not met their burden of establishing that the comparative results (relying on the single Example 2) are commensurate in scope with the claimed subject matter. *See In re Boesch*, 617 F.2d 272, 277, 205 USPQ 215, 220 (CCPA 1980); and *In re Payne*, 606 F.2d 303, 315-16, 203 USPQ 245, 256 (CCPA 1979) (Applicant's evidence of nonobviousness that is not commensurate in scope with its claims cannot overcome the rejection of those claims). Example 2 on page 14 of the Specification is limited to 5-aminotetrazole in a specific amount, a specific amount of each of the three claimed oxidants, and includes zinc oxide and graphite, while the claims on appeal are not so limited. Therefore, we determine that the sole Example relied upon by Appellants as showing "unexpectedly advantageous results" is not commensurate in scope with the claimed subject matter.

Additionally, as also found by the Examiner (Answer 5), Appellants have not established that the results shown are actually unexpected and significant. Although Appellants correctly note that the amount of carbon monoxide (CO) generated by the composition of Example 2 (with 1% zinc

Appeal 2006-2456  
Application 08/894,351

peroxide) is less than that generated by Example 1 (Br. 7; Specification 15), Appellants have not shown that this reduction in CO is unexpected and significant especially when Example 4, which is within the scope of the claimed subject matter (4% zinc peroxide), produces the same amount of CO as Example 1 which has no zinc peroxide (Specification 14-15). In view of these results, the significance of the zinc peroxide cannot be determined. It also cannot be determined what effect the zinc oxide has on these results.

For the foregoing reasons, based on the totality of the record, including due consideration of Appellants' arguments and evidence, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of § 103(a). Therefore, we AFFIRM the rejection of claims 1-4, 9, 10, 27, and 31 under 35 U.S.C. § 103(a) over Blau in view of Lund, Wardle, Highsmith, Yoshida, and Redecker.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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